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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/667,008	09/17/2003	Ee Hua Wong	AGSGP010	9138		
25920	7590 01/31/2006		EXAM	EXAMINER		
	PENILLA & GENCAI	JOHNSON, JO	JOHNSON, JONATHAN J			
710 LAKEWAY DRIVE SUITE 200			ART UNIT	PAPER NUMBER		
SUNNYVAL	E, CA 94085		1725			

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)				
		10/667,008	WONG ET AL.				
Office Action	n Summary	Examiner	Art Unit				
		Jonathan Johnson	1725				
The MAILING DAT Period for Reply	E of this communication app	ears on the cover sheet with	the correspondence ad	dress			
WHICHEVER IS LONGE - Extensions of time may be availated after SIX (6) MONTHS from the - If NO period for reply is specified. - Failure to reply within the set of	TORY PERIOD FOR REPLY ER, FROM THE MAILING DATE and the provisions of 37 CFR 1.13 mailing date of this communication. I above, the maximum statutory period vextended period for reply will, by statute later than three months after the mailing See 37 CFR 1.704(b).	ATE OF THIS COMMUNICA 36(a). In no event, however, may a reply vill apply and will expire SIX (6) MONTH cause the application to become ABAN	NTION. y be timely filed S from the mailing date of this α IDONED (35 U.S.C. § 133).				
Status							
1) Responsive to con	nmunication(s) filed on <u>05 D</u>	ecember 2005.					
2a)⊠ This action is FIN A	This action is FINAL . 2b) This action is non-final.						
•	3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
closed in accordar	ce with the practice under E	Ex parte Quayle, 1935 C.D. 1	1, 453 O.G. 213.				
Disposition of Claims							
4)⊠ Claim(s) <u>1-7 and 9</u>	-13 is/are pending in the ap	olication.					
4a) Of the above claim(s) is/are withdrawn from consideration.							
5) Claim(s) is/are allowed.							
•	6) Claim(s) 1-7 and 9-13 is/are rejected.						
,	7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.						
O) Claim(s) and	s subject to restriction andre	r oloolion roquii omomi.					
Application Papers							
	objected to by the Examine						
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.							
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).							
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.							
Priority under 35 U.S.C. §	i19						
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).							
a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received.							
 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 							
3. Copies of the certified copies of the priority documents have been received in this National Stage							
application from the International Bureau (PCT Rule 17.2(a)).							
* See the attached detailed Office action for a list of the certified copies not received.							
Associated and the second of t							
Attachment(s) 1) Notice of References Cited (PTO-892)	4) 🔲 Interview Sur	mmary (PTO-413)				
2) Notice of Draftsperson's Pate	ent Drawing Review (PTO-948)	Paper No(s)/	Mail Date	O-152\			
Information Disclosure State Paper No(s)/Mail Date	ment(s) (PTO-1449 or PTO/SB/08) -·	6) Other:	ormal Patent Application (PTo	O-102)			

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,968,670 (Brofman) in view of US 5,632,434 (Evans). Brofman teaches forming an elongator on a first substrate (fig. 2e, item 14), wherein the elongator comprises an expander (figure 2e, item 14) and an encapsulant to encapsulate the expander (col. 6, Il. 25-35); forming the solder joint to connect the first substrate to a second substrate; and softening the encapsulant to release the expander from a compressed state to elongate the solder joint (col. 7, Il. 1-20); providing a mold having a first mold cavity and a second mold cavity, wherein the first substrate is disposed in the first mold cavity and an expander is disposed in the second mold cavity (figure 2a, items 11); compressing the expander (figure 1, item 4); and introducing the encapsulant into the mold to encapsulate the expander to form the elongator on the first substrate (figure 2, item 14); singulating the first substrate (figure 2a, item 16); wherein the first substrate is one of a group consisting of a series of interposers, a series of packages and a wafer (figure 2a, item 27); wherein the first substrate is one of a group consisting of a chip, an interposer, a package, a board and a series of interposers (figure 2a, item 27); wherein the elongator is formed on the

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first substrate by one of a group consisting of an injection molding process, a compression molding process, a transfer molding process and a casting process (figure 1, item 4); wherein the expander comprises a corrugated strip (figure 1, item 4); wherein a first end of the corrugated strip overlaps a second end of the corrugated strip (figure 1, item 4). Brofman teaches the interchangability of solder and polyamide, which is a polymer, electrical insulator (col. 1, ll. 30-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the solder encapulsant with a polyamide in order to ensure a strong joint (see Evans col. 1, ll. 10-45) and to modify the method of Brofman to utilize the temperature range in order to ensure the solder is completely reflowed (see Brofman col. 7, ll. 1-20).

Response to Arguments

Applicant argues Evans relates to only wire bonding applications. The examiner disagrees. "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single

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carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed." In the instant case, the examiner can find no statement limiting Evans to only wire bonding.

Instead, the examiner only finds general statements involving bonding chips or ICs onto a substrate (see abstract and col. 1, ll. 10-65)...

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jonathan Johnson Primary Examiner Art Unit 1725